

Determination of Public Land (Rangeland) Health for 65045 CAPROCK RANCH

The Record of Decision (ROD) for the New Mexico Standards for Public Land Health and Guidelines for Livestock Grazing Management (dated January 2001) adopted three Standards for Public Land Health. These are (1) Upland Sites Standard, (2) Biotic Communities, Including Native, Threatened, Endangered, and Special Status Species Standard and (3) Riparian Sites Standard.

The ROD also established a process for the BLM Field Offices for the implementation. Through a public participation process, the Roswell Field Office developed and adopted indicators to use in conjunction with existing monitoring data to assess these standards.

Field assessment worksheets and other available data that evaluate the local indicators were completed for this allotment. Based on these assessments, it is my determination that public land within Caprock Ranch, allotment #65045, meets the Upland Sites standard and (2) Biotic Communities, including Native, Threatened, Endangered, and Special Status Species standard. There are no public land Riparian areas on this allotment, therefore this standard was not addressed.

/s/Karen Kelleher
Field Manager

5/25/07
Date

Standards of Public Land Health

Evaluation of 65045 CAPROCK RANCH Allotment

[10/15/2005]

The Roswell Field Office conducted Rangeland Health Assessments at 3 study sites within Caprock Ranch, allotment #65045. These assessments evaluated Soil/Site Stability, Hydrologic Function and Biotic Integrity indicators within each study site vicinity. Existing monitoring data was incorporated into and in support of these field assessments. A summary of each assessment is attached and shown in the following table

Study Area or Assessment Area	UPLAND			BIOTIC			RIPARIAN		
	Meets	Monitor an Indicator	Does Not Meet	Meets	Monitor an Indicator	Does Not Meet	Meets	Monitor an Indicator	Does Not Meet
65045-BM202-C039	X			X			N/A		
65045-IDSU-D258	X			X			N/A		
65045-JT202-C040	X			X			N/A		

Twenty-two (22) indicators for Rangeland Health were evaluated for public land on Caprock Ranch, allotment #65045. Ten (10) of these assessed soil site stability, 11 hydrologic function and 13 biotic integrity. These qualitative assessments in conjunction with previous data collected on three study locations within this allotment were utilized to make rangeland health determinations. Quantitative evaluations are performed by the Roswell Field Office, which include some or all of the following: ground and vegetative cover and composition, production, frequency and ecological condition. These collections which were initiated in the late 1970's/early 1980's, are scheduled and conducted approximately every 5 years. This allotment is a "C" (custodial) category due to small amounts of public land present.

Current permitted use on this allotment is 26 cattle to graze yearlong for an authorization of 312 AUM's. BM-202 site is a CP-2 Sand Hills ecological site on 833 acres/337 hectares. Roswell (RoD) fine sand is the soil phase, deep and well-drained with rapid permeability. It is found on high plains of eastern parts of areas surveyed. It formed in eolian deposits on 5 to 10 percent slope. Elevation ranges from 4,000 to 4,200 ft/1,212 to 1,272 m. Past livestock use was evident here, and it appears the cattle have been rotated out of this pasture to allow for winter rest. There is a watering point at the the beginning of this grazing unit but no livestock were observed at the other side of the fence. Bare ground was estimated at 40-50 percent exceeding the long-term average by 15, therefore rates Moderate. Vegetative ground cover remains adequate for this pasture and should improve with rest. Sand bluestem (*Andropogon hallii*) was mostly absent with only a few sprigs left. Little bluestem (*Schizachyrium scoparium*) clumps appeared grazed to 3-4" stubble. These groups of grasses were reduced somewhat but can still be found. Functional/structural groups rate Moderate due to this reduction. Infiltration is moderately compromised for this site. Runoff is greater than expected and is marginal. Those plant cover

changes have adversely affected rates of infiltration. Annual production is only 1/3 of expected with an estimate of 500 lbs/ac or kg/ha and slightly less than the long-term average. Invasive plants rates Moderate as mesquite (*Prosopis glandulosa*) is scattered throughout. This area is good mule deer (*Odocoileus hemionus*) and quail (*Callipepla* spp.) habitat along with pronghorn (*Antilocapra americana*). There is quite a bit of bluestem present, but is grazed down to where lesser prairie chicken (*Tympanuchus pallidicinctus*) nests are not able to be concealed. There are records of LPC leks nearby, but none known in immediate vicinity. Special status species habitat and populations both deviate moderately here. All remaining indicators fell within normal range of variability.

Pasture No. 1 is a CP-2 Sandy Plains ecological site on 320 acres/130 hectares with a Stromal-Pyote (SPA) soil association fine sand, gently undulating, 0 to 2 percent slope, deep and well-drained on high terraces in eastern parts of areas surveyed. This soil, found on low ridges, formed in calcareous alluvial and eolian deposits on 4,000 to 4,100 ft/1,212 to 1,242 m elevation. Pyote soil is mainly in depressional areas and formed in alluvial and eolian deposits. Both soil types exhibit rapid permeability. All indicators for this site rated either None to Slight or Slight to Moderate. Of all sites assessed on this allotment, this was the most conducive for LPC habitat and all elements met the upland and biotic standards. LPC tracks were present throughout this pasture. This fenced off area was part of the 1992 Hilburn chemical control for shinnery oak (*Quercus havardii*) which included East Hilburn Pasture from the adjoining ranch. This accounts for limited amounts of shinnery that may provide brood habitat. Grass heights though are more than adequate for LPC concealment. Active leks have been recorded recently just south (2000) and north (2005) from past surveys as well as surrounding areas.

JT-202 Pasture is a CP-2 Sand Hills ecological site on 1,027 acres/416 hectares. Soil is (RPD) Roswell-Jalmar fine sand, hilly occurring on high terraces in eastern parts of area surveyed. Elevation is 3,900 ft/1,181 m to 4,100/1,242 m. Roswell soil occurs on hummocky sand dunes and Jalmar in depressional and interdunal areas. These soil units formed in eolian and alluvial deposits deep and well-drained on 5 to 10 percent slope. Bare ground approaches upper ends of ranges expected and rates Moderate. Wind-scoured blowouts are occasionally present here, as erosional processes are dynamic and ever-changing. Litter has piled up against some obstructions and fences and appears to be wind-aided. Organic matter content and soil protection remains intact. Some plant groups are reduced with threeawn (*Aristida* spp.) and sunflower (*Helianthus* spp.) dominating some depressions. Due to an over-abundance of annuals, annual production is limited to 1/2 of potential at 600 lbs/ac or kg/ha. Long-term average is 967 lbs/ac or kg/ha on this site. The perennial grass seed source should ensure that grass propagation will occur when conditions improve. Despite some limitations, this site provides excellent mule deer, pronghorn and quail habitat. Large clumps of sand bluestem and stands of shinnery oak provide satisfactory conditions for LPC. All other factors affecting soil, hydrological and biotic attributes fell within normal range of variability from those expected parameters.

Wildlife - Evaluation of the integrity of biotic community considered several indicators as attribute indices for this area of interest. Biotic indicators are interrelated with several other indicators, including soil/site stability, hydrologic function and vegetation. Several indicators are singularly biotic and address the vegetative aspect of the ecological site description, such as functional/structural groups and plant mortality & decadence.

In addition to the standard worksheet biotic factors, four specific wildlife indicators and descriptors are included in this evaluation. A unique assemblage of terrestrial species and avifauna can be expected to use this ecosystem. Of significance are the sand dune lizard (*Sclerophorus arenicola*) and lesser prairie chicken known only to occur within the vicinity of this ecosystem. The vegetative community of interest is the shinnery oak-tall grass type only found in portions of this Field Office area. Key habitat components include sand bluestem, shinnery oak, sand dune lizard habitat features (dune blowouts) and lesser prairie chicken habitat features (booming grounds & nesting areas). The amount, condition and juxtaposition of these habitat features are used as habitat indicators for this assessment. This assessment begins by determining if the site is within "Core Areas" for lesser prairie chicken. Other important wildlife species and their habitats, such as desert mule deer, pronghorn and a variety of game and non-game species are also considered in this assessment. This area of interest does fall within the Core Area. There are no recent recordings of LPC on this allotment, although potential does exist. Some areas do appear to provide suitable habitat for sand dune lizard. All sites do provide excellent mule deer and pronghorn habitat ranging from uplands to deep valleys and plains with a variety of soil types.

In the professional opinion of Assessment Team, public land within Caprock Ranch, allotment #65045 meets Upland and Biotic standards. There are no Riparian issues present, therefore this standard was not addressed. See site notes and recommendations for additional information regarding evaluations on this allotment.

Recommendations: It is highly recommended that spring lek surveys be conducted in 2007 on those evaluated public land portions. The habitat is very conducive to prairie chicken as well as sand dune lizard. Most land assessed more than meets the standards. The 1992 Hilburn chemical treatment for shinnery oak which included Pasture No.1, has allowed for this pasture to possess potential for LPC nesting and booming.

Recommend Robel studies be established on those public land parcels where habitat potential exists for LPC.





DATE 1-8-07
FO RFO
ALLOT 25045
PASTURE 202
VEGID# 217

3. 1. 2000

RFOs Upland and Biotic Standard Assessment Summary Worksheet

SITE 65045-BM202-C039

Legal Land Desc	SESE 26 0090S 0310E Meridian 23	Acreage	833
Ecosite	070BY061NM SAND HILLS CP-2	Photo Taken	Y
Watershed	13060007060 MESCALERO		
Observers	NAVARRO/MOE	Observation Date	01/08/2007
County Soil Survey	NM644 CHAVES NORTH	Soil Var/Taxad	
Soil Map Unit	RoD	Soil Taxon Name	ROSWELL
Texture Class	NM644 FS	Soil Phase	ROSWELL
Texture Modifier	NM644 FINE SAND		
Observed Avg Annual Precipitation		Observed Avg Growing Season Precipitation	
NOAA Annual Precipitation	17.23	NOAA Growing Season Precipitation	12.49
NOAA Avg Annual Precipitation	16.26	NOAA Avg Growing Season Precipitation	13.78
Disturbances and Animal Use:	Recent livestock use is evident. Little bluestem clumps and individual plants have been utilized to 3-4" stubble. No livestock were observed as it appears they have been rotated out to the pasture just west adjacent to a water source.		

Part 2. Attributes and Indicators

		Departure from Ecological Site Description/Ecological Reference Areas				
Attribute	Indicators	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S H	Rills					X
Comments:						
S H	Water Flow Patterns				X	
Comments:						
S H	Pedestals and/or Terracettes				X	
Comments:						
S H	Bare Ground			X		
Comments:	40-50% is the current estimate					
S H	Gullies					X

Comments:						
S	Wind-scoured, Blowouts, and/or Deposition Areas				X	
Comments:						
H	Litter Movement				X	
Comments:						
S H B	Soil Surface Resistance to Erosion				X	
Comments:						
S H B	Soil Surface Loss or Degradation				X	
Comments:						
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff			X		
Comments:						
S H B	Compaction Layer					X
Comments:						
B	Functional/Structural Groups			X		
Comments:	There is an obvious absence of sand bluestem and shinners oak is somewhat down.					
B	Plant Mortality/Decadence				X	
Comments:						
H B	Litter Amount				X	
Comments:	Litter is plentiful especially in interspaces.					
B	Annual Production			X		
Comments:	Annual production is slightly less than long-term average with 500 lbs/ac or kg/ha currently estimated.					
B	Invasive Plants			X		
Comments:	Mesquite is scattered throughout this site and is encroaching on the two-tracks side.					
B	Reproductive Capability of Perennial Plants					X
Comments:						
S	Physical/Chemical/Biological Crusts				X	
Comments:	Physical crusting is evident but not contiguous.					
B	Wildlife Habitat				X	
Comments:	Good deer, pronghorn and quail habitat.					
B	Wildlife Populations				X	
Comments:	Good deer, pronghorn and quail pops.					
B	Special Status Species Habitat			X		

Comments:	Quite a bit of bluestem present, but grazed down and no clumps large enough to conceal nests.					
B	Special Status Species Populations			X		
Comments:	LPC leks nearby, but none known in immediate vicinity.					

Part 3. Summary

A. Indicator Summary - Each of the indicators are associated with one or more of the attributes below. An indicator is placed in a category (columns) above and summed for each of the Standard Attributes.

Standard Attribute		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S	Soil	0	0	1	6	3
H	Hydrologic	0	0	2	6	3
B	Biotic	0	0	5	6	2

B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the *Does not Meet* column, Moderate becomes *May Need More Info*, and Slight to Moderate and None to Slight merge to form the *Meets* columns. Values from the table are summarized below. Space is provided for rationale of the determination. This space should most certainly be used when the determination by the ID team conflicts with the summarized values. Provide the sources of information that lead to the determination. X out the appropriate box for each attribute to denote final agreed upon determination by the ID team.

Attribute	Rationale	Does Not Meet	May Need More Info	Meets
Soil		0	1	9
Hydrologic		0	2	9
Biotic	Biotis marginal here but still remain functioning. Bluestem species grazed and sand bluestem particularly compromised.	0	5	8

Site Notes: The usual compliment of vegetation (diversity) exists but not in proper proportions. Sand bluestem is absent with a few exceptions of those plants that have tillered after the onset of fall rainfall and removal of livestock. Little bluestem is present but utilized to 3-4" stubble virtually everywhere throughout this pasture. Livestock have been removed and perhaps will allow this site to re-propagate the vital grass species for LPC nesting. Spring LPC surveys should verify potential for leking activity.

RFOs Upland and Biotic Standard Assessment Summary Worksheet

SITE 65045-IDSU-D258

Legal Land Desc	NWNW 35 0090S 0310E Meridian 23	Acreage	320
Ecosite	070BY055NM SANDY PLAINS CP-2	Photo Taken	Y
Watershed	13060007060 MESCALERO		
Observers	NAVARRO/MOE	Observation Date	01/08/2007
County Soil Survey	NM644 CHAVES NORTH	Soil Var/Taxad	
Soil Map Unit	SPA	Soil Taxon Name	STROMAL
Texture Class	NM644 FS	Soil Phase	STROMAL- PYOTE
Texture Modifier	NM644 FINE SANDS		
Observed Avg Annual Precipitation		Observed Avg Growing Season Precipitation	
NOAA Annual Precipitation	17.23	NOAA Growing Season Precipitation	12.49
NOAA Avg Annual Precipitation	16.26	NOAA Avg Growing Season Precipitation	13.78
Disturbances and Animal Use:	No livestock present. Possible site for LPC activity as tracks were observed.		

Part 2. Attributes and Indicators

		Departure from Ecological Site Description/Ecological Reference Areas				
Attribute	Indicators	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S H	Rills					X
Comments:						
S H	Water Flow Patterns				X	
Comments:						
S H	Pedestals and/or Terracettes				X	
Comments:						
S H	Bare Ground					X
Comments:	20% is the current estimate					
S H	Gullies					X
Comments:						

S	Wind-scoured, Blowouts, and/or Deposition Areas				X	
Comments:						
H	Litter Movement				X	
Comments:	some movement					
S H B	Soil Surface Resistance to Erosion				X	
Comments:	interspace ped samples held together					
S H B	Soil Surface Loss or Degradation				X	
Comments:						
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff				X	
Comments:						
S H B	Compaction Layer					X
Comments:						
B	Functional/Structural Groups				X	
Comments:	very minimal departure					
B	Plant Mortality/Decadence					X
Comments:						
H B	Litter Amount					X
Comments:	litter amount exceeds expected parameters					
B	Annual Production					X
Comments:	1200 to 1500 lbs/ac or kg/ha is the current estimate.					
B	Invasive Plants				X	
Comments:	yucca less than scattered					
B	Reproductive Capability of Perennial Plants					X
Comments:						
S	Physical/Chemical/Biological Crusts				X	
Comments:	Physical crusting evident but broken due to excessive amounts of vegetative ground cover.					
B	Wildlife Habitat				X	
Comments:	good deer, pronghorn and quail habitat					
B	Wildlife Populations				X	
Comments:	good deer, pronghorn and quail pops					
B	Special Status Species Habitat				X	
Comments:	good grass nesting cover-limited amount of shinnery oak for brood habitat					
B	Special Status Species Populations				X	

Comments:	LPC tracks present

Part 3. Summary

A. Indicator Summary - Each of the indicators are associated with one or more of the attributes below. An indicator is placed in a category (columns) above and summed for each of the Standard Attributes.

Standard Attribute		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S	Soil	0	0	0	6	4
H	Hydrologic	0	0	0	6	5
B	Biotic	0	0	0	8	5

B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the *Does not Meet* column, Moderate becomes *May Need More Info*, and Slight to Moderate and None to Slight merge to form the *Meets* columns. Values from the table are summarized below. Space is provided for rationale of the determination. This space should most certainly be used when the determination by the ID team conflicts with the summarized values. Provide the sources of information that lead to the determination. X out the appropriate box for each attribute to denote final agreed upon determination by the ID team.

Attribute	Rationale	Does Not Meet	May Need More Info	Meets
Soil		0	0	10
Hydrologic		0	0	11
Biotic		0	0	13

Site Notes: Sand and little bluestem are abundant here with clumps reaching heights very conducive to nesting and cover for LPC. Diversity of vegetation exists where forb and shrub species co-exist in adequate amounts. Sunflower and other lower growing forbs provide a summer and winter forage crop respectively for pronghorn and other wildlife such as lagomorphs, burrowing rodents and other herbivores. Predatory birds like harriers, hawks, kestrels were observed here. Very minimal amounts of shinnery oak was observed. This is a very healthy pasture in regards to site protection and special status species potential.

RFOs Upland and Biotic Standard Assessment Summary Worksheet

SITE 65045-JT202-C040

Legal Land Desc	SESE 11 0100S 0310E Meridian 23	Acreage	1027
Ecosite	070BY061NM SAND HILLS CP-2	Photo Taken	Y
Watershed	13060007060 MESCALERO		
Observers	NAVARRO/MOE	Observation Date	01/08/2007
County Soil Survey	NM644 CHAVES NORTH	Soil Var/Taxad	
Soil Map Unit	RPD	Soil Taxon Name	ROSWELL
Texture Class	NM644 FS	Soil Phase	ROSWELL-JALMAR
Texture Modifier	NM644 FINE SANDS,HILLY		
Observed Avg Annual Precipitation		Observed Avg Growing Season Precipitation	
NOAA Annual Precipitation	17.23	NOAA Growing Season Precipitation	12.49
NOAA Avg Annual Precipitation	16.26	NOAA Avg Growing Season Precipitation	13.78
Disturbances and Animal Use:	Wildlife and livestock to a lesser extent use this pasture. Some fences are in need of maintenance but still function to some degree. This site may be accessed only on foot or ATV.		

Part 2. Attributes and Indicators

		Departure from Ecological Site Description/Ecological Reference Areas				
Attribute	Indicators	Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S H	Rills					X
Comments:						
S H	Water Flow Patterns				X	
Comments:						
S H	Pedestals and/or Terracettes				X	
Comments:						
S H	Bare Ground			X		
Comments:	40-50% is the current estimate					
S H	Gullies				X	

Comments:						
S	Wind-scoured, Blowouts, and/or Deposition Areas			X		
Comments:	occasionally present					
H	Litter Movement			X		
Comments:	up against obstructions					
S H B	Soil Surface Resistance to Erosion				X	
Comments:						
S H B	Soil Surface Loss or Degradation				X	
Comments:						
H	Plant Community Composition and Distribution Relative to Infiltration and Runoff				X	
Comments:						
S H B	Compaction Layer					X
Comments:						
B	Functional/Structural Groups			X		
Comments:	moderate departure exists					
B	Plant Mortality/Decadence				X	
Comments:						
H B	Litter Amount				X	
Comments:	20-30% is the current estimate					
B	Annual Production			X		
Comments:	annual production at 60% of potential					
B	Invasive Plants				X	
Comments:						
B	Reproductive Capability of Perennial Plants					X
Comments:						
S	Physical/Chemical/Biological Crusts				X	
Comments:	physical crust evident but broken					
B	Wildlife Habitat					X
Comments:	excellent deer, pronghorn and quail habitat					
B	Wildlife Populations					X
Comments:	excellent deer, pronghorn and quail pops-good quail					
B	Special Status Species Habitat					X
Comments:	Large clumps sand bluestem-good shinnery oak stands					

B	Special Status Species Populations				X	
Comments:						

Part 3. Summary

A. Indicator Summary - Each of the indicators are associated with one or more of the attributes below. An indicator is placed in a category (columns) above and summed for each of the Standard Attributes.

Standard Attribute		Extreme	Moderate to Extreme	Moderate	Slight to Moderate	None to Slight
S	Soil	0	0	2	6	2
H	Hydrologic	0	0	2	7	2
B	Biotic	0	0	2	6	5

B. Attribute Summary. In this table, the Extreme and Extreme to Moderate columns in the table above are merged for the *Does not Meet* column, Moderate becomes *May Need More Info*, and Slight to Moderate and None to Slight merge to form the *Meets* columns. Values from the table are summarized below. Space is provided for rationale of the determination. This space should most certainly be used when the determination by the ID team conflicts with the summarized values. Provide the sources of information that lead to the determination. X out the appropriate box for each attribute to denote final agreed upon determination by the ID team.

Attribute	Rationale	Does Not Meet	May Need More Info	Meets
Soil		0	2	8
Hydrologic		0	2	9
Biotic		0	2	11

Site Notes: This site is ideal for upland game birds, pronghorn and mule deer. Past use by livestock is apparent but has not hindered this pasture's productivity. Adjacent to drainages off the Caprock, this area has limited access but can be traveled on foot. Fencelines traverse this area separating state, public and private. A water source exists at Heights Windmill just west and should gravity feed this pasture, but no pipelines were observed. A two-track exists which must be the sole entrance south from highway 280. Shinnery oak is abundant with topographic features which may add to adequate cover for LPC and other wildlife. This site is isolated from the rest of the allotment. Spring surveys for LPC may suggest future monitoring.